DOE/EH – 0666

Hanford Site Operations

Fluor Hanford

HSO

Report from the DOE Voluntary Protection Program On-site Review, January 13-16, 2003

U.S. Department of Energy
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Contents

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Abbreviations and Acronyms

AJHA	Automated Job Hazard Analysis
ALARA	As Low As Reasonably Achievable
BED	Building Emergency Director
BLS	Bureau of Labor Statistics
CAIRS	U.S. Department of Energy's Computer Accident/Incident Reporting System
CATS	Computer Aided Tracking System
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
DEG	Deficiency Evaluation Group
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy's Richland Operations Office
DOE-VPP	U.S. Department of Energy's Voluntary Protection Program
DOL	U.S. Department of Labor
EJTA	Employee Job Task Analysis
EP	Emergency Preparedness
ES&H	Environment, Safety and Health
ESH&Q	Environment, Safety, Health & Quality
ESHQ&R	Environment, Safety, Health, Quality Assurance and Readiness
EWP	Enhanced Work Planning
EZAC	Employee Zero Accident Council
FCN	Field Change Notice
FEB	Facility Evaluation Board
FH	Fluor Hanford, Inc.
FIN	Fix It Now
FSAR	Facility Safety Analysis Report
FY	Fiscal Year
HAMMER	Hazardous Materials Management and Emergency Response

HAMTC	Hanford Atomic Metals Trade Council
HEHF	Hanford Environmental Health Foundation
HGET	Hanford General Employee Training
HOST	Housekeeping & Office Safety Tour
HSO	Hanford Site Operations
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
ITEM	Integrated Training Electronic Matrix
JHA	Job Hazard Analysis
JSA	Job Safety Analysis
LMIT	Lockheed Martin Information Technology
LOTO	Lockout/Tag-out
MSDS	Material Safety Data Sheets
NI	Nuclear Irradiation
OE	Operations Engineer
OJT	On-the-Job Training
ORPS	Occurrence Reporting Program System
OSHA	U.S. Department of Labor's Occupational Safety and Health Administration
PA	Physician's Assistant
PHMC	Project Hanford Management Contract
PIC	Person in Charge
PM	Preventive Maintenance
PNNL	Pacific Northwest National Laboratory
POD	Plan of the Day
PPE	Personal Protective Equipment
PEIS	Programmatic Environmental Impact Statement
PM	Preventive Maintenance
PTH	Day & Zimmerman Protection Technology Hanford
PZAC	President's Zero Accident Council
ROD	Record of Decision

RWP	Radiation Work Permit
S&H	Safety and Health
SIC	Standard Industry Code
WIN	Work It Now
VPP	Voluntary Protection Program
ZAC	Zero Accident Council

Executive Summary

The Department of Energy's Voluntary Protection Program (DOE-VPP) on-site review of the Fluor Hanford – Hanford Site Operations (HSO) was conducted from January 13-16, 2003, in Richland, Washington. The following summarizes the review team's observations and analyses.

Management Leadership

The DOE-VPP On-site Review Team (Team) found strong evidence of safety and health (S&H) commitment from all levels of management. Management and employees have successfully established a relationship of mutual respect and cooperation on all matters relating to safety program implementation. The utilization of the Zero Accident Council (ZAC), the Safety Logs, and the Hanford Atomic Metals Trade Council (HAMTC) Safety Representative Program demonstrates the variety of pathways made available to all employees to elevate safety concerns and issues. The Team noted that management demonstrated a very strong commitment to employee S&H and they held themselves both responsible and accountable for S&H in the workplace. All managers, supervisors and non-bargaining employees are evaluated as to their performance in the safety and health area. Senior management is visible and actively participates in the S&H program. Despite the strong possibility of HSO's continued downsizing to streamline the organization to meet budgetary restraints and the needs of the customer, morale is high, and the safety culture remains strong.

Employee Involvement

The Team found that employees are actively involved in S&H in the workplace. Employee involvement not only occurs through participation in the safety meetings, ZAC, and training activities, but also through work planning, the safety inspection processes, and in periodic self-assessments. Employees openly stated that they not only felt responsible for their own safety, but also for their peers' safety. The Team found during the interviews, that employees usually spoke in terms of "our" efforts when referring to their peers and management. The Team could not detect a difference in managers' or employees' attitudes toward safety. This clearly demonstrates a strong sense of ownership and pride in S&H by the employees. The Team observed that employees are truly involved in the S&H program, and a strong safety "culture" has developed at this site. Employees consistently described each other as members of a family, and that each was genuinely concerned for the safety of others. Notably, employees are not only involved in hazard recognition and job hazard analyses, but also in hazard resolution.

Worksite Analyses

Various forms of self-inspections are conducted within HSO. Automated Job Hazard Analyses (AJHA) are thoroughly and extensively utilized, along with Employee Job Task Analyses (EJTA), to analyze and communicate hazards in the workplace. Employees are not only encouraged but also expected to report any unsafe conditions and do whatever is possible, within their resources, to correct the circumstance without endangering themselves. Accident investigation processes involve employees and result in an analysis to determine casual factors. Identified hazards are addressed, with appropriate corrective actions initiated in a timely manner. The hazard analysis tools are integrated into the work planning process. Extensive trending is performed and communicated to the workforce in an effort to foster continuous improvement.

Hazard Prevention and Control

HSO has a full complement of safety and health professional staff, and can draw from other experts from across the Hanford site. S&H rules have been clearly laid out for all employees and managers. The site employs a standard hierarchy of control to prevent and mitigate hazards in the work environment, consisting of engineering controls, administrative controls, and personal protective equipment (PPE). The PPE program is an in-depth program that is well integrated into the operations, maintenance, engineering, technical support, and S&H oversight and training portions of the site's programs. HSO has implemented a comprehensive preventive maintenance (PM) program that uses a combination of preventive, predictive, and corrective maintenance to enhance the availability, operability, and reliability of plant structures, systems and components. The site has mature, well functioning emergency preparedness, radiation protection, and medical programs.

Safety and Health Training

The Team noted from employee interviews and document reviews that employees at all levels knew how to identify and protect themselves and others from hazards associated with their jobs. The training consists of a combination of classroom, computer-based, and on-the-job training, as it applies to the various positions.

Management clearly supports the S&H training programs, as evidenced by employee interviews, funding levels, management expectations, and documentation reviews. In addition, interviews with personnel who conduct S&H inspections confirmed that they were provided hazard recognition training: most recently, they were provided a Hazardous Materials Management and Emergency Response (HAMMER) training facility videotape, entitled, "Hazard Recognition." Employees were observed properly using personal protective equipment (PPE), and when questioned, were knowledgeable about its limitations and care. The employees also explained in detail what their responsibilities and actions would be for different types of emergencies at the site.

Conclusion

The Team concludes that the applicant has met and/or exceeded each of the five DOE-VPP tenets. Accordingly, our technical opinion, as documented in this report, will be presented to the U.S. Department of Energy's Voluntary Protection Program (DOE-VPP) Program Administrator for consideration.

I. Introduction

The U.S. Department of Energy's Voluntary Protection Program (DOE-VPP) on-site review of the Fluor Hanford Site Operations (HSO) was conducted from January 13-16, 2003, in Richland, Washington. The HSO VPP application encompasses all work conducted by HSO. The application was approved in 2002.

HSO has successfully completed its Integrated Safety Management System (ISMS), and it was validated in December 1999. HSO was revalidated in July 2002.

HSO was evaluated against the program requirements of the DOE-VPP. The On-site DOE-VPP Evaluation Team consisted of a diverse cross-section of individuals from the DOE Pacific Northwest Science and Nevada Operations Offices, Fernald Closure Project, Fluor Federal Services/Richland, CH2M Hill Hanford Group, Pacific Northwest National Laboratory, Bechtel/BWXT Idaho and West Valley Site. (See the Appendix for a roster of the DOE On-site Review Team.) During their review, Team members walked through the worksites, conducted formal and informal interviews, and conducted a limited review of documentation.

The Standard Industry Code (SIC) for HSO is #4953, Refuse Systems. Since the U.S. Department of Labor's (DOL) Bureau of Labor Statistics (BLS) does not publish data for this four-digit level industry, SIC 495 – Sanitary Services, data was used for comparison. The injury/illness rates reported by HSO show that they are below the known rates for comparable industries. Submitted rates meet the DOE-VPP criteria.

Historical Occupational Injury and Illness Data HSO Employees (Only)					
Calendar Year	**Hours Worked**	**Total Recordable Cases**	**Total Recordable Case Incidence Rate**	**# of Lost and Restricted Workday Cases**	**Lost and Restricted Workday Case Incidence Rate**
1999	3,997,393	60	3.00	24	1.20
2000	4,428,837	50	2.26	13	0.59
2001	3,619,760	42	2.32	13	0.72
1999-2001	**12,045,990**	**152**	**2.52**	**50**	**0.83**
	Total hours	***Total cases***	***3-yr Average***	***Total cases***	***3-yr Average***
1999 Bureau of Labor Statistics rates for SIC 495 *Sanitary Services*			***9.0***		***6.3***

*NOTE: 2002 Recordable Case Incident Rate for HSO employees was 1.65

HSO made their comparisons with data from BLS information. (Applicants are required to compare their injury/illness data with the 3-year average rate to the most current published BLS injury rates for that industry).

HSO injury and illness data are not reported directly to the U.S. Department of Energy's Computer Accident/Incident Reporting System (CAIRS). HSO's data is reported and captured as part of Fluor Hanford's site-wide program. Injuries and illnesses at HSO are reported to Fluor Hanford's corporate manager by an HSO case manager and evaluated by the Hanford Environmental Health Foundation (HEHF), the site-wide health provider.

Employees incurring a work-related injury or illness are required by procedure to report their injury or illness to line management, as well as HEHF. All injuries and near-miss incidents are immediately reported to HSO top management via an electronic page. Details follow via e-mail. This assures prompt medical and operational review of the employee's condition. Appropriate and timely treatment expedites employee recovery. HSO employees may self-treat minor injuries, with the approval of their manager.

Case managers are responsible for activities related to each occupational injury and illness. They ensure prompt and appropriate medical attention for injured or ill employees. In working with affected employees, the teaming of managers and employees helps to broaden the perspective of incident investigations and resultant corrective actions. This clearly demonstrates that management is committed to the minimization and/or elimination of identified hazards. Routine assessments of safety performance are supported by a state-of-the-art web-based computer program that automates multiple activities, and facilitates continuous improvement through the sharing of lessons learned at Employee and President's Zero Accident Council (ZAC) meetings.

Investigations of injuries and illnesses involve at least the employee, their manager, and a safety professional. Frequently, additional personnel with specific expertise in factors related to the incident supplement this teaming effort, assuring a thorough investigation and a broad perspective in the identification of corrective actions. Management readily accepts responsibility for implementing measures that either control or eliminate the hazards involved with the related incident.

Safety performance is tracked and trended on at least a monthly basis, and adjustments are made where negative trends are identified. These adjustments include such items as additional training, and task redesign and/or physical changes to the work environment. Tracking of these trends is accomplished utilizing a web-based computer program specifically designed to perform multiple recordkeeping, management, and statistical functions. The program generates the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) 300 Log from data entered by the Project Case managers. It also generates the Computerized Accident Investigation Report (the OSHA 101 equivalent) required by DOE O 231.1, and a variety of statistical and narrative management reports. The Injury/Illness Recordkeeping and Reporting Coordinator was recently trained on the new OSHA 300 Log, and reviewed proposed changes to DOE O 231.1.

Lessons learned identified during the investigation process are discussed with those involved and with those who could potentially benefit from lessons learned. Significant incidents are elevated to both the Employee and President's ZACs to promote proactive implementation of corrective actions at other locations with similar conditions.

HSO has an excellent safety culture.

II. Management Commitment

The level of management commitment found at this site meets all U.S. Department of Energy's Voluntary Protection Program (DOE-VPP) criteria. The sub-elements of this tenet, and an evaluation of the applicant's performance in these areas are addressed and described below.

VPP Commitment

Management support and commitment are critical to the successful implementation of the DOE-VPP. In addition to a fully implemented Integrated Safety Management System (ISMS), as required by DOE, Hanford Site Operations (HSO) management has implemented a number of mechanisms including independent audits and assessments, availability of technical expertise, and distribution of corporate lessons learned. These mechanisms work together to ensure that all work is managed effectively, and all recognized potentially hazardous situations are identified and mitigated.

Fluor corporate commitment is evident in their statement that "Fluor is known as one of the safest contractors in the world thanks to the outstanding safety focus of its members." Anything that poses a safety and health risk is unacceptable. During the review, employees indicated they were aware of this position.

HSO managers at every level are involved and show their commitment to worker safety, by ensuring that employees are involved in the identification of the worksite hazards, and reducing the danger of injuries and illnesses to employees. The DOE-required ISMS is in place, and it supports efforts to efficiently and effectively accomplish work, while protecting the workers, the public, and the environment.

Management's involvement, participation, and visibility in safety are evidenced by their endorsement of staff members and worker's participation in workplace safety activities. Activities include participation in the HSO Zero Accident Councils (ZACs), critiques of events, and work planning.

All managers and non-bargaining employees have performance criteria that include safety performance as a key element of their yearly evaluation. Bargaining unit employees do not have performance evaluations. All employees at HSO may report a safety-related concern or issue without fear of reprisal or harassment for reporting the issue. The Zero Accident Councils and the Facility Safety Logs provide an avenue for all employees to elevate safety-related issues for resolution.

Leadership

The application presents an informed, comprehensive program to support all the sub-elements of this VPP tenet. Management commitment to safety and employee

involvement is implicit in the design of the program and systems that support safety at the site.

The Vice-President, Senior Director, and other managers solidly demonstrate management commitment. Facility walkthroughs are conducted by the Senior Director, and periodically by the Vice-President, when his schedule allows. HSO's commitment is demonstrated in strong S&H policy statements, the provision of resources necessary to support all S&H program activities, attention to employee-identified S&H concerns, active participation in safety promotional activities, and leadership/mentoring for employee safety activities. An excellent example of senior management commitment was the provision of funds to cover the costs for continuing "pizza feeds-safety recognition," when the funding was eliminated. This method of recognition has gained popularity, and is viewed as an important way to have management show their appreciation of employee safety.

HSO has a well-established set (35) of Zero Accident Councils: its hierarchy begins with worker-level ZACs, continuing through departmental ZACs, an HSO ZAC, and concluding with the President's Zero Accident Council.

HSO managers and all employees have a documented process to elevate safety concerns. Concerns are addressed first to their supervisors, where most of the concerns are corrected, and are addressed last through the ZACs and the Safety Logs. Elevation of a safety concern can be taken to the highest level: the President's Zero Accident Council (PZAC).

HSO has seven major sub-tiered organizations. These organizations are listed as follows:

- Training;
- Project Maintenance;
- Site Infrastructure Services;
- Emergency Services (Emergency Preparedness, Hanford Fire Department, and Safeguards and Security);
- Integration & Reporting;
- Business & Project Control; and
- Environmental Safety, Quality and Radiological Programs.

There are over 1,400 employees, including 69 office professionals and technicians, 123 managers and supervisors, 429 professionals and engineers, and 810 skilled craft.

A number of employees have mentioned the impact the Hanford Atomic Metals Trade Council's Safety Representative Program has made on workplace safety, stating that the "HAMTC Safety Representative Program has made a significant difference in communications and improvements in safety at HSO." There seems to be a genuine concern for the well-being of employees at HSO. For example, when fire department employees questioned the effectiveness of warning signs and equipment used at traffic accident scenes, more visible signs and vests were ordered immediately. When a safety-

related issue is identified within a work group, the HAMTC Safety Representative ensures the potential problem is disseminated to all the other work groups, as well as HSO management.

Organization

HSO is organized to support its service provider role, with additional strong emphasis on safety, quality assurance, and radiological protection. Through review and observation, the Team believes that safety is well-integrated into HSO's organizational design. HSO management has established an effective and consistent risk-based process for prioritizing Environmental, Safety, and Health (ES&H) needs and associated funding for identified safety issues, deficiencies, and commitments. Line management has also developed a consistent and responsive Integrated Safety Management (ISM) System Description, as required by DOE, and implemented project specifics through Administrative Procedure HNF-11087, Rev. 0, *HSO Integrated Safety Management System Description*. The HSO Zero Accident Council reports to the Vice-President, and provides an effective and efficient resolution to safety issues. Line management uses formal mechanisms and processes for collecting information on Environment, Safety, Health, Quality Assurance and Readiness (ESHQ&R) performance. Managers and first-line supervisors include time in their schedules for walking through the facility and for maintaining open dialogues with all employees.

Responsibility

Senior management is prominently involved in all elements the S&H program and is committed to the implementation of a well-coordinated S&H program, including establishment of a clear line of communication with employees through the Zero Accident Council. HSO subscribes to the philosophy that line management is responsible for safety. It is clear that management needs help with implementing the ESHQ&R Program, and that each employee is personally responsible for safety and has a significant role to play in it's implementation.

HSO has clearly defined the roles, responsibilities, accountabilities, and authorities for conducting business. Managers and all employees have been made responsible for safety at HSO. Policy acknowledges that a team of ESHQ&R specialists with technical expertise in a variety of disciplines such as industrial hygiene, fire protection, and radiation protection must be available to achieve excellent performance. For that reason, highly qualified ESHQ&R professionals are part of the organization to ensure that work is performed safely, and other ESHQ&R professionals provide independent overview of HSO operations.

HSO uses position descriptions to ensure that all positions in their organizations have current and accurate descriptions of the duties of the job to be performed and reporting relationships. HNF-11087, Rev. 0, *HSO Integrated Safety Management System Description*, defines worker rights, and management and worker S&H responsibilities. Management and non-bargaining employee performance reviews are used to monitor and reinforce implementation and performance goals for safety.

HSO has established a strong safety culture through VPP and the Zero Accident Council to ensure that both management and employees share – a belief that *all* employees of HSO are both responsible and accountable for safety and health in the workplace.

Notable Practices:

1. The Zero Accident Councils are an extremely effective method of channeling employee involvement from the individual work group to the Vice-President of HSO and even to the President of Fluor Hanford, Inc. (FH). Interviewed HSO employees participated in ZAC meetings and utilized their Safety Logs.

2. HSO upper management receives a page when any first aid injury or near-miss incident occurs. Status of the affected employee or incident is updated via e-mail until resolved. This process improves real-time awareness to upper management of developing problems and trends in the field.

3. Use of the HAMTC Safety Representative Program improves communication between management and employees and provides an additional avenue to elevate safety concerns.

Accountability

Management is committed to providing the leadership, direction, goals, training, resources, and standards to assist employees in the performance of their duties in a safe and healthful manner. Management and employees share in the responsibility to carry out individual duties in a safe manner. Managers are held accountable for safety by specific criteria within their individual performance standards, and they are accountable for the consistent enforcement of company safety policy. The company has a formal written performance appraisal system with S&H responsibilities as a critical element for management personnel.

The annual performance reviews are a key method used by the site to hold all managers and non-bargaining employees accountable for their performance. The annual performance reviews, which are conducted for all managers and non-bargaining employees, consider S&H performance as a major element of the review. Employees have input as to what their specific S&H expectations are for the rating period. Additionally, the results of these reviews directly affect annual merit pay considerations. Management has an established policy allowing disciplinary action(s) for violations of rules, policy and requirements, thereby ensuring day-to-day accountability on the job.

Accountability is regularly communicated to all employees through staff meetings, safety meetings, training, site publications, and annual performance reviews. All subcontractors are expected to follow HSO S&H requirements; they are held accountable for meeting these requirements both through formal contractual agreements, and through the implementation of formal policies, procedures and directions. Failure to comply with

these requirements and/or continued non-compliance can result in discipline including time off or dismissal from the work site.

Authority and Resources

All employees are responsible for safety. All site employees have "stop work" authority and safety concerns about which they have raised issues must be addressed to their satisfaction prior to work resuming. This review indicated that the system utilized is effectively working. A firefighter described a work situation he encountered while on a facility tour. The crafts involved had tried to perform work from a ladder where a scaffold was required. He stopped work on-the-spot and the appropriate equipment was set-up. He shared with the Team that he was comfortable utilizing the "stop work" and was confident of the support from his management. The Vice-President and Senior Director have ultimate responsibility with assistance of full-time professional, technical and administrative employees, and the Zero Accident Councils. Adequate resources, including staff, equipment, materials and funding, training, and professional expertise have been committed to workplace safety and health.

The total budget devoted to the site safety and health program is $240 million for FY 2003, which represents approximately 11% of the total budget identified in the work breakdown structure. HSO facility-specific support provided under this budget includes:

- Emergency preparedness,
- Fire protection,
- Industrial safety,
- Industrial hygiene,
- Occupational medicine,
- Nuclear safety,
- Radiation protection,
- Transportation safety, and
- Management oversight.

Funding in the current budget covers such items as salaries, materials and equipment, purchased services, attendance at safety conferences and workshops, and special training for employees.

Planning

The need to build S&H into projects is ingrained into HSO's services culture and policy. The annual planning process requires managers to analyze and predict employee training, ES&H, and operational costs for doing business. A five-year institutional plan helps capture long-term goals and capital expenditures. An integrated planning framework has been established to provide a comprehensive template to ensure the planning process is comprehensive.

The overall objective for HSO's jobs is to "do work safely," by reducing risks to the worker, the public, and the environment. Managers plan for S&H at the site level. These planning elements then flow down to the operations, maintenance, and engineering levels. They establish cost, schedule, and technical baselines within the HSO Work Plan. Overall, HSO's S&H program is goal-driven with annual review and modification of goals and objectives based on actual performance findings. Safety and health planning is extremely thorough and is designed to ensure continuous improvement.

Subcontractor Program

Subcontractors must pre-qualify, based on past S&H performance before they are allowed to bid on work at this site. Specific S&H requirements are contained in subcontracts. The Safety and Health Manager is responsible for the safety and health of the subcontractor personnel. He reviews all safety and health-related statistics and contract requirements. The two current subcontractors, Day & Zimmerman Protection Technology Hanford (PTH) and Lockheed Martin Information Technology (LMIT), have over 750 employees. Their safety and health statistics are added to the HSO VPP annual report. Depending on their expected length of stay on site, subcontractors go through Hanford Site Orientation Training and facility-specific orientation. Once on-site, subcontractors are closely monitored through informal walkthroughs on a routine basis. Prior to starting work, the subcontractor must produce a Job Safety Analysis (JSA). Daily work activities are coordinated with HSO's project management and line management and ESHQ&R personnel to ensure compliance with site policy, standards, and regulations. Deficiencies must be corrected in a timely manner, and employees cannot be exposed to hazards during mitigation activities. Failure to comply with S&H rules, regulations and policy can result in monetary penalties and/or dismissal from the site. Subcontractors who repeatedly violate the same rules, policies, or standards may be dismissed from the site.

The ES&H Contract Clause is inserted into subcontracts as appropriate. Subcontractors are then carefully screened using combined ISM/VPP criteria. Those accepted for work at the site must send their employees to the required site-entry training courses before beginning work.

HSO typically has less than a dozen subcontractor personnel on-site at any one time. All subcontractors must receive the primary site orientation through Hanford General Employee Training (HGET): activity and workplace-specific orientation and training is received through a mix of both site-sponsored courses and contractor-sponsored courses. Contract provisions require program and site audits by HSO. Contracted entry/exit at the site is through a series of security and permit/work authorization processes. Contracts contain penalties (e.g., "stop work" without remuneration for safety infractions), up to termination for non-compliance. This system has been effective for several years.

The management personnel interviewed during the course of this on-site evaluation who had a responsibility for either planning, supervising or working along with subcontractors indicated that subcontractors were all expected to follow HSO S&H requirements, and that subcontractors were held accountable for meeting these requirements.

Management Visibility

Senior management is clearly visible and actively participates in the S&H program. HSO management regularly participates in various S&H activities. Managers are held accountable for their S&H responsibilities and maintain a policy of accessibility with regard to S&H issues that arise in the workplace. An "open door" policy ensures that any employee, at any time, can express an S&H concern to any level of management. The team confirmed this policy through formal and informal interviews, and noted that most employees did not feel the need to raise concerns above their first-tier or immediate supervisor, because any concerns raised were resolved almost immediately. Also, the HSO-HAMTC and HSO ZAC Councils do an outstanding job of addressing any safety and health concerns and facilitating corrective action(s) where needed. Accordingly, employees did not believe it necessary to take concerns to upper-level management, as issues were effectively handled by the various safety committees and first-line supervision.

The Manager for HSO indicated that it is his expectation that new employees embrace the HSO culture that values a safe workplace and a clean work environment. Numerous examples of this culture were noted, to include personnel going out of their way to pick up discarded coffee cups, sweep floors, neatly store equipment, etc: An example of this behavior was observed in the Hammer Facility. A student stooped to clean up a coffee spill that someone else had left. The grounds and all work areas that were visited were neat and orderly. New employees are also introduced to the ZAC Representatives assigned oversight responsibilities related to the various HSO shops and facilities.

Employee involvement is clearly demonstrated by the S&H infrastructure in place and is functioning at this site. Skillful attention to the encouragement and growth of employee ownership has enhanced not only the S&H program, but has measurably improved all operational areas. HSO meets all requirements for the employee involvement tenet.

The on-site review clearly demonstrated that employees are pro-actively engaged in the S&H programs. In addition, a review of programs documents and the results of interviews showed management supports empowered employees to proactively administer the S&H programs at this site. The degree of employee involvement in S&H found during the review generally meets the DOE-VPP criteria for employee involvement.

Conclusion

Based on the interviews and walkthroughs conducted by the Team, the Management Involvement tenet was met. After 302 interviews with managers at all levels, non-

bargaining and bargaining employees there were no management involvement issues identified. Some suggestions for minor improvements related to increased visibility by top management were provided to HSO management for consideration.

III. EMPLOYEE INVOLVEMENT

Degree and Manner of Involvement

The information gathered by the VPP on-site review team, from field observations, formal and informal employee interviews indicate there is a positive atmosphere on the HSO. The review of documentation and formal interviews indicates that there is a pro-active atmosphere on the part of management to ensure that employees have a voice in all safety programs. This employee involvement is demonstrated by active participation in Automated Job Hazard Analysis (AJHA) evaluation of work performed at HSO. This process includes the concepts of the DOE requirement for an Integrated Safety Management System (ISMS), as well as the tenets of VPP. Employees from all interested disciplines meet to discuss the scope of work, identify work requirements or potential problems, and finalize the AJHA. AJHA meetings may be held, depending on the complexity of the tasks. A pre-job briefing is held on the day of the work execution to ensure all employees understand the work, the hazards and the expectations. Another example of employee involvement is the Safety Logbook, where employees provide safety considerations that are tracked to closure. Employees indicate that they generally receive positive input from management and that management ***walks the talk*** from a "safety first" perspective.

Formal and informal interviews were conducted with the employees during walkthroughs of various site locations. Most of the employees interviewed at HSO or those performing work associated with the Hanford site have been on-site for more than 15 years. The institutional knowledge inherent in such a well-developed organization was apparent. These factors contributed to a mature safety attitude.

Generally, workers were candid, and they indicated that their safety concerns are heard and acted upon in a timely manner. Employees indicated that they understood their rights and responsibilities, and are very knowledgeable about their rights and responsibilities regarding S&H, particularly their "stop work" authority. Workers and supervisors provided instances where work was stopped or curtailed until a safety issue was resolved. An example of the use of "stop work": a pipe fitter shared his use of "stop work" authority. He was not comfortable with the job set-up related to the use of a glove box. The job was planned with craft input and successfully completed. Interviews confirmed that a strong safety culture exists at all levels, and employees feel empowered to voice safety concerns. The Safety Logbooks provide an opportunity for HSO employees to express concerns, review status of corrective actions and review inputs from colleagues in the log book that are maintained in an easily accessible location in the workplace.

Most employees were familiar with HSO's efforts to continually improve safety programs and safety culture. They clearly understand that the pursuit of VPP recognition is part of the HSO's ongoing efforts to keep the program moving forward. Nearly all employees interviewed were knowledgeable regarding their rights to request reports of inspections, accident investigation, injury and illness records, and S&H training. All

stated that they were given timely and complete written and/or oral feedback to S&H questions and issues.

Overall, it was clear that the work force has enthusiastically welcomed the opportunity for increased participation in assuring their abilities to perform work safely. When asked how the VPP process has impacted their work, most employees interviewed responded that their awareness level has increased, and their recognition of how their work may impact the safety of others has also been heightened. Notably, HSO employees indicated that the Company's VPP efforts have kept safety in the forefront. Many workers indicated that the VPP effort has moved the HSO's programs to a higher level.

HSO employees made the following comments:

"Employees speak highly of the safety programs at HSO. "

"ZAC Committee follows up on employee concerns."

"Our support is vital in safety issues."

"Workers are in charge of safety, instead of management."

"[An employee] feels…[he or she]…can "stop work" when…[he or she]…feels there is safety issue."

"Management is very open to employee ideas."

"Union stewards deliver safety issues to upper management, and usually get satisfactory responses from management."

REPETITIVE COMMENT: "Crafts have a say in procedure steps."

"VPP is not the flavor of the month."

"Management supports a 24/7 safety culture."

Safety and Health Committees

Programs that are employee-oriented, and support the VPP Employee Involvement tenant include:

- HSO-Hanford Atomic Metals Trade Council (HAMTC) HSO Safety Committee
- President's Zero Accident Council & Employee Zero Accident Councils
- As Low As Reasonably Achievable (ALARA)

The HSO has also spread the word through posters, e-mails, bulletin boards, safety meetings, "all hands" meeting, and other oral communication. All meetings are opened with a safety topic. Employees feel that management participates in the committees, but the employees have ownership.

Most workers indicated that they have input into the procedures for the work being performed. Many of them are involved in the development process, and others have input after the development, but always prior to implementation and execution. Employees were very confident and enthusiastic and feel they are part of the work development process at this site. HSO incorporates employee involvement in the development of new training, coordinating with other craft, and also in the actual writing of the lesson plan.

Employees are involved in the formal and informal reporting of hazards. They have "stop work" authority, and feel comfortable and confident with it. They have input into systems and procedures for incentive programs, as well as the disciplinary procedures as they relate to safety and health issues, such as the ZAC Safety Logbooks. The HSO HAMTC Bargaining Unit Safety Representative is responsible for assisting bargaining unit staff members with resolving their safety-related concerns, or any staff concern related to ES&H issues. It is up to the manager to ensure that the employee is familiar and understands the disciplinary procedures as they relate to S&H issues. In the interviews conducted, all employees were knowledgeable of these procedures.

Notable:

Pizza Feeds are held within the different HSO work groups as they meet participation requirements.

24/7 Safety Culture is promoted by HSO as a way of life, no matter if you're on-site or at home or play. The HSO group provides monthly safety meetings that are safety-related. "Boating safety," with the county sheriff; "Road rage awareness," with Washington State Patrol; and "Spring Cleanup," with power equipment.

Employees caring for each other was demonstrated by one employee sending another employee of a different discipline a news article that directly related to the receiving employees scope of work.

Conclusion

Employee involvement is very strong in the HSO project workplace, and it appears that through management's involvement in allowing the employee to have a word on job tasks; safety issues; and procedures. With total safety involvement from both the management and employee standpoints, it would seem that HSO is in good hands. HSO meets the requirements for the employee involvement tenet.

IV. Worksite Analysis

The on-site review clearly showed that HSO meets the requirements for worksite analysis listed in the DOE-VPP criteria. The sub-elements of Worksite Analysis at HSO are described below.

The worksite analysis processes at HSO are structured and implemented to adequately control hazards to the workers, the environment, and the public. Formal worksite analysis processes for the control of operations and maintenance, and the mitigation of hazards or potential hazards are institutionalized. Personnel interviewed during this review and observations made by the Team confirmed that these processes are used and understood by the workers. Hazard analysis processes incorporate such tools as the Automated Job Hazard Analysis (AJHA) system, Job Safety Analyses (JSA), and required walkthroughs by crafts, engineers, maintenance personnel, and subject matter experts, as deemed necessary. These processes help to ensure a safe and functional work environment is available to all employees at HSO.

The team was able to participate in the following work control/hazard analysis activities:

- A Plan of the Day for managers, supervisors and persons in charge (PIC);
- A Turnover Meeting provided by line managers for the various work groups;
- Several Pre-job briefings;
- A meeting to develop an Automated Job Hazard Analysis (AJHA);
- Several Recovery meetings in response to a chemical incident; and
- A task specific planning meeting to scope future work activities.

Pre-use/Pre-startup Analysis

Major operating facilities have a Baseline Hazard Assessment. Prior to any new design or modification of systems or processes at HSO, a hazard and accident analysis is completed which documents the defined processes, specifies requirements, lists specific types of hazards and mitigation during design, and ranks categories of hazards. Safety and engineering professionals review the design criteria and provide comments and resolutions. These issues are tracked to completion on any new design or modification to systems and processes. Based on the risk and complexity of a task, every work group involved in an activity may participate in the AJHA. Employees are involved in pre-start-up analyses using the AJHA, and in developing operating procedures for new equipment. HSO has one nuclear facility (222-S Laboratory), which has an approved Interim Safety Basis document. HSO also has one radiological facility (Waste Sampling and Characterization Facility Complex), and it too has a Safety Analysis document.

HSO facilities use administrative procedures to provide facility-specific implementation information and requirements. Requirements for industrial and/or radiological facilities

are also provided in accordance with standard practices and procedures. A graded approach employed for the required level of analysis and documentation, for a given facility, is consistent with the—

- Complexity of the facility and/or systems,
- Hazard classification of the facility,
- Magnitude of the hazards, and
- Stage of the facility life cycle.

Comprehensive Surveys

As mentioned above, major facilities have completed Baseline Hazard Assessments. In addition, Employee Job Task Analyses (EJTA) are conducted for all employees to document the type of activities they perform in their work. The appropriate safety professionals review these analyses. The EJTA is renewed annually, or whenever the individual has a change in his/her potential exposures or routine scope of work. Each employee is afforded the opportunity to provide input and discuss the content of the EJTA with the appropriate manager.

Industrial hygienists perform personal exposure monitoring/sampling, as required and deemed appropriate. Personnel sampling follows established NIOSH sampling protocols, and AIHA (American Industrial Hygiene Association) accredited laboratories (i.e., both on- and off-site) perform the analyzes of these samples. The monitoring data is entered into the Hanford Information Health 2 database for trending and recordkeeping.

The facility Radiological Control organization completes comprehensive surveys and monitors activities in radiological areas where work is being performed. These various surveys include such techniques as air monitoring, contamination surveys, radiation surveys, and personal dose monitoring. The data from these surveys contributes significantly to the ALARA program at the facilities.

Each major facility has a fire hazard analysis that analyzes the fire load, types of operations, life safety code, and other potential hazards of a facility. A fire protection facility assessment is performed in required (as defined by in-house procedures) facilities every three years with one exception: the 222-S Laboratory, which is accomplished annually because it is a nuclear facility.

Self-Inspections

Safety and health professionals, line managers, and employees are involved in self-inspections, which include S&H, fire, and respiratory protection program procedures. In addition, they conduct facility surveillances, operations inspections, shift surveillance inspections and employee-based inspections. Depending on the type of deficiency discovered and the type of self-inspection, deficiencies are tracked using surveillance data sheets, safety logbooks, Zero Accident Council minutes, maintenance work packages, a facility tracking database, or the Project Hanford Management Contract (PHMC) Deficiency Tracking System.

Notable: The Health and Safety Self-Inspection checklist [ASP-200-1.13] is a good tool for not only documenting the inspections, but it a very useful tool for training employees in the inspection process, and assisting them in identifying hazards that they might not be familiar with in their workplace.

Routine Hazard Analysis

The HSO utilizes the AJHA as the primary tool for identifying, mitigating and communicating hazards associated with a particular work task, whether it is for operations, maintenance, fabrication or construction. Every effort is made to involve those workers who will actually perform the task in AJHA development. The team was able to observe the actual development of an AJHA for the removing of an obstruction in a Dip Tube at the 222-S Laboratory. In this case, engineers, crafts, lab workers, and safety personnel were involved in the effort.

A job hazard analysis (JHA) following the requirements in HNF-PRO-079, *Job Hazard Analysis* is completed for all jobs using a graded approach. The JHA is used during the work planning process for identifying, evaluating, controlling, and communicating potential hazards and environmental impacts associated with routine, non-routine, and skill-based work. It was noted that there were some changes being made to the AJHA and EJTA processes. These changes will involve better utilization of the EJTAs in regards to skill-based tasks, thus all tasks would have some level of hazard assessment. Training on these changes was being conducted at the various site locations at the time of the visit.

Many routine maintenance activities are performed using a WIN (Work It Now) ticket. The hazard analysis for those items listed on the WIN ticket have previously been evaluated and documented, thus allowing that work to be done more quickly and efficiently.

Radiological hazard controls are incorporated using HNF-1623, *Radiological Work Planning Process.*

Engineers, employees, and safety professionals are involved in the pre-job briefings, where many of the following items are discussed: scope of work, facility conditions, hold points, waste planning checklists, means of communication, “stop work” authority, emergency actions and a discussion of the potential hazards and mitigating actions. Employees are encouraged to express any concerns to ensure all hazards and mitigating factors are identified. The team was able to participate in several pre-job briefings, which demonstrated employee involvement and the encouragement of their input. The team was also impressed that at the conclusion of the pre-job briefings, the workers were reminded to “think STAR”—Stop, Think, Act, and Review. When a job is low risk and complex, the briefing may be performed as a tailgate or kick-off meeting without formal documentation.

Notable: The stamping of safety-related work packages with a "green safety cross", as used by the 222-S laboratory, is an effective way to identify "safety-related packages" to increase the level of priority.

Employee Reporting of Hazards

HSO promotes open, two-way communication to facilitate resolution of employee safety and health issues and concerns. Employees are free to use verbal or written means to report safety and health issues. Issues that are brought up in safety meetings and cannot be resolved immediately are tracked to resolution in safety meeting minutes.

The "Stop Work Responsibility" procedure [HNF-PRO-3468] establishes employee responsibility and authority to stop work immediately, without fear of reprisal, when a situation exists that places themselves, their coworkers, or the environment in danger. The "stop work" authority has been well-communicated to employees in the workplace. "Stop work" information is posted in facilities to remind employees of their right and responsibility to stop work when they deem it necessary.

Operators and craft personnel routinely report hazards to their supervisors, writing them up in a "Safety Log Book" or bringing them to the attention of union stewards or ZAC representatives for corrective actions. Regardless of the vehicle used for notification, HSO management prides itself on rapid response (often in writing) and follow-up of actions to resolve each report. Corrective actions are normally tracked to completion in an Action Tracking System (ATS), and/or appear in the minutes of safety or Employee Zero Accident Council (EZAC) meeting minutes.

Employee interviews confirmed that they are fully aware of how to report hazards. While there are formal mechanisms for reporting hazards, most employees feel comfortable reporting hazards to their supervisors expecting that hazards will be corrected as timely as possible. Employees feel they can report hazards to any of the management team without fear of reprisal.

Notable: The Safety Logbooks are an exemplary tool for employees to report safety concerns. The Safety Logbooks are strategically placed within each facility, and are easily accessible to the employees.

Accident Investigations

HSO personnel are required and encouraged to promptly report and investigate work-related events, including incidents involving property/vehicle damage, accidents involving injuries/illness, and near misses. Line managers determine the extent and type of accident investigation required. Employees are encouraged to participate as part of the accident investigation team. Injury/Illness and first aid incidents are investigated and recorded on an Event Report (Project Hanford Form A-6001-714). The form provides a mechanism for the injured employee, supervision and safety professionals to adequately document how an incident occurred, and how it can be prevented in the future. Accident investigation training is provided to employees and managers, plus many staff members

are certified as DOE Accident Investigators. Bargaining unit employees assist in training development and conducting accident investigation training sessions.

Lessons learned are sent to the Hanford Site Lessons Learned Coordinator for distribution. Informal lessons learned are shared with the appropriate safety contacts. Any actions are entered into the tracking system and tracked to completion.

Trend Analysis

Safety and Health performance and trending data are available to both management and employees, and are used as the basis to modify, change, or establish safety processes. HSO ES&H staff perform a broad-based, comprehensive trend analysis on a routine basis. Monthly, a collection of HSO performance indicators provides a status of those indices measuring Hanford Site performance. Some of the performance indicators include project safety rates, safety improvement plan performance, personnel radiation exposure, preventive maintenance backlog, and corrective action risk ranking. A monthly trend analysis report captures injury and illness to date, and is issued to management, members of the safety councils, and other groups. Annually, environment, safety, health and quality (ESHQ&R) staff analyzes trend event reports, motor vehicle accident causes, and violation data to communicate to employee's weaknesses and desired improvements. Radiological trend analyses are used to develop improvement strategies and annual ALARA goals.

HSO formally trends injuries, illnesses, fire damage, vehicle damage, preventive maintenance backlog, and corrective action risk rankings. There is also some informal trending of Occurrence Reporting Program System (ORPs) reports and other information gathered by safety professionals. Trending charts are made available to employees. Charts are posted, for example, on facility "Safety Information Boards" and 'break' areas. Such reports are disseminated to provide employee feedback and communicate areas earmarked for improvement. Performance indicators are reviewed at monthly program review meetings.

Area for Consideration: The VPP criterion suggests that information from employee reported safety concerns, injury/illness investigation data, and the results from inspections are to be considered in the trending process. HSO collects information from all of these sources, and the team recommends that HSO better utilize this information in their trending process to identify opportunities for improvement. The data could be very useful in supporting the annual Safety Improvement Plans. This additional trending data should also be communicated to the workforce via the Safety Information Boards and other mechanisms. Remember who the audience is when displaying the trending data, and present the data accordingly.

Conclusion

The on-site review clearly showed that HSO meets all requirements for worksite analysis listed in the DOE-VPP criteria. Management and workers have a thorough understanding of the workplace hazards, and the manner in which these hazards are

mitigated. Hazard recognition and tracking systems are in-place to support employees in their day-to-day work assignments.

V. Hazard Prevention and Control

The level and complexity of the hazard prevention and control program found at this site meet DOE-VPP criteria. Sub-elements of this tenet are addressed and described below.

Access to Certified Safety Professionals

A variety of professional expertise is available for consultation and resolution of safety and health issues. HSO has access to corporate expertise in several disciplines, including risk assessment, safety analysis, certified industrial hygienist, safety professionals, certified health physicist, emergency response, fire protection engineers, electrical inspectors, and others (as needed) to conduct operations safely and responsibly. Additional certified safety and health professionals are available from other organizations in FH. Continued professional development is supported and encouraged to maintain areas of expertise.

Communication from the staff of subject matter experts to the employees is encouraged and supported through various mechanisms, including the following:

- Meetings and presentations to discuss new regulations, technology, plan of the day, concerns, and other site issues;
- Review of EJTA's with staff members;
- Participation in the development of AHJA and other work control permits and procedures;
- Facility and job walk downs;
- Participation in accident evaluations and conduct of inspection; and
- Interaction while performing fieldwork activities.

Field-deployed Industrial Hygienist and Occupational Safety professionals were well-known throughout HSO. Safety and Health professionals were looked at as part of the team, and employees felt comfortable interacting and discussing safety and health issues without fear of reprisal. Employees reported good communication and feedback from Safety and Health professionals.

Methods of Hazard Control

HSO procedures outline the basic rights and responsibilities of HSO employees. Other safety and health requirements are located in FH requirement documents and procedures and supplemented by HSO or facility procedures as appropriate. Employees perform

routine work activities within the EJTA boundaries, and perform work that has been determined to have hazards outside of normal work activities, under the guidance of the AJHA. HSO employees were knowledgeable about "stop work" authority, and felt they had the authority to use "stop work" without the fear of reprisal.

Recognized hazards at the HSO site are controlled through process or material substitution, engineering controls, administrative controls and personal protective equipment. Hazard control documents are periodically reviewed, and only require updating on an infrequent basis as they are well-characterized.

The requirements for PPE are defined in procedures and the laboratory chemical hygiene plans. The use of PPE is also well-defined in work procedures, work permits and in AJHA's. Safety and health professionals prescribe and verify the use of appropriate PPE through the review and approval of appropriate procedures and permits. The team determined that PPE was appropriate and accessible to employees.

Positive Reinforcement

Employees interviewed during the evaluation expressed support for the positive reinforcement efforts by management to encourage the development and growth of a safety culture at HSO. Staff was appreciative of the "Pizza Feeds" and the encouragement received from management during safety and committee meetings. The "morale" program has been reinstated to further reward employee safety behavior.

Disciplinary System

Interviews with employees indicated that HSO has effectively implemented and consistently applied a disciplinary program. Employees interviewed were aware that a system for disciplinary action exists and understood the general guidelines. For example, one pipe fitter related an actual case where a co-worker was dismissed from work for violation of a Lock and Tag procedure, and shared with the team his support of management's decision.

Preventive Maintenance

A computerized preventive maintenance (PM) program is used to prolong equipment life, and reduce the likelihood of equipment failure. Frequencies of PM's are determined and based on specification, code requirements, manufacturer's recommendations, plant operating experience, engineering requirements, and equipment history.

Industrial Hygiene equipment is obtained through the Industrial Hygiene Equipment Laboratory (IHEL). IHEL maintains and calibrates the equipment prior to use. The Pacific Northwest National Laboratory (PNNL) calibrates radiological equipment that is used in the field, and personal contamination monitors are calibrated in each facility by trained HSO instrument technicians.

Emergency Preparedness and Response

HSO maintains a comprehensive and well-developed emergency preparedness and response program. The program is developed, implemented, and administered in accordance with appropriate procedures. Employees interviewed understood their responsibilities in the event of an emergency. The HSO Emergency Planning group assists DOE-RL in the maintenance of the Hanford Site Emergency Preparedness (EP) program.

All HSO employees participate in emergency drills appropriate to the hazards in their work area at least once year. During the team's interview process in the 200 area, crash phones were activated and employees responded as appropriate.

Medical Programs

HSO is served by the DOE contract with the Hanford Environmental Health Foundation (HEHF) for occupational medical services. HEHF's central facility is located in Richland North, and a branch facility is located in the 200 West Area. The medical staff works closely with employees, management, and the HSO safety professionals to ensure employees are receiving appropriate medical care to resolve any issues on a one-on-one basis. HEHF provides a suite of the medical programs including the following:

- Hearing conservation,
- Asbestos,
- Ergonomics,
- Lead,
- Hazardous Waste Operations and Emergency Preparedness (HAZWOPER),
- Beryllium,
- Wellness,
- Resolution of safety issues with medical consequences,
- Comprehensive Health Surveys,
- EJTA Documentation,
- Medical surveillance, and
- Injury/Illness case management.

Conclusion

The team concludes that all aspects of the "Hazard Prevention and Control" tenet are being maintained at levels above expectations. HSO's achievements in this area exceed this VPP tenet.

VI. SAFETY AND HEALTH TRAINING

The Safety & Health (S&H) training program, procedures and overall implementation meets the DOE-VPP criteria.

Safety and Health Training

Overall, the site provides formal, comprehensive, and documented S&H training for all employees, supervisors and managers. HSO-specific training is provided based on the location of an employee's job assignment. Line managers are depended upon to identify required S&H training for employees. HSO utilizes the Integrated Training Electronic Matrix (ITEM) system for tracking purposes. Each employee's training history is tracked using the ITEM system. Training is required for all new hires and long-term employees. Refresher training is required. Each Supervisors and leads use the ITEM list to assure employees are current in training prior to job assignments.

To verify the accuracy of an employee's training record, the Re-evaluation Team requested the training records of randomly-selected employees from several groups. It was noted that the training record was kept up-to-date, and verified with the employee job task analysis (EJTA). Several of the groups post monthly calendars of classes, attendees, and location of expected training for their groups.

Employees are taught to recognize hazards associated with their jobs through several means. Special technical groups receive professional skills training, which is discipline-specific. Operating staff personnel receive special qualifications training. Programs covering fire and emergency systems, hazard communications, hazardous waste operations, and operational safety are also included in the training.

Several of the safety courses developed by the site are required by Federal and State regulations; others come from supervisory job and task analyses. Training is completed in a setting that can be formal (held in a classroom), computer-based, or job-specific (typically on-the-job training). The HAMMER facility is a primary training facility for HSO employees. A partnership with the training center and the labor unions allows the bargaining unit employees with subject-specific expertise to train other employees in a hands-on environment. In addition to the use of the HAMMER facility, the fire department utilizes the local municipal agencies to train and update employees on new techniques and criteria.

Formal training is developed utilizing a systematic approach to training. This approach incorporates a stringent set of tools for analyzing the job task to be performed, and develops course material. All formal training is evaluated to ensure its effectiveness. Subject matter experts from qualified discipline assist and review training development. Most training programs require the successful completion of the following:

- Written examination,
- Performance demonstration, and
- Oral testing.

Informal training varies by group. A combination of pre-job and/or post-job meetings, safety meetings, exercises, safety awareness programs, lessons learned, ZAC meetings, and group discussions are utilized. Employee involvement includes development of informal presentations for safety meetings, or for continuing training classes. Employees are encouraged to volunteer to assist in the planning and presenting of safety and health topics during safety meetings. Programs of continuing education and/or re-certification are also provided to update qualifications and maintain proficiency at regular time intervals.

On-the-job (OJT) training is used extensively across the site to ensure that each worker obtains the required skills to perform a specific job function safely and effectively. This is achieved by following the requirements of a qualification guide, or OJT checklist, that documents "hands-on" training and "mock-up" training used to prepare for conducting potentially high-hazard activities. This training documents the worker's understanding and proficiency. Informal OJT has proven highly effective. In some cases, daily pre-job briefings are performed, and most supervisors provide a safety message that extends beyond the job to enhance the overall attitude about safety.

HSO Managers, Field Work Supervisors and Team Leads receive the same safety and health training as their employees, with the exception that some specific training is increased in depth to reflect the added responsibility of their positions. Supervisor training is documented and tracked through the ITEM.

Training curriculum is revised as required by training instructors. Whenever changes occur to procedures, standards, or regulations, or changes are made as a result of lessons learned or feedback from students, corresponding changes are made to the curriculum. Oral and written exams are administered and re-certification is scheduled regularly.

Employees appeared to be very knowledgeable concerning the safety aspects of their job responsibilities. Health Physics Technicians are required to re-certify every two years, and to participate in established training cycles every two to three months. Certification includes testing and oral boards. Training records that were reviewed were complete and up-to-date.

From the interviews, it was evident that employees knew how to protect themselves and others from hazards of the job. Employees were observed using PPE in an appropriate manner. When questioned about their use of the PPE, they were knowledgeable about its limitations and care. The employees could also explain in detail what their responsibilities would be for different types of on-site emergencies. Employees verified that they could not conduct their jobs if not current in their training. Employees were also very familiar with the "stop work" order.

Conclusion

S&H training receives high priority at this site. Employees are well-aware of their safety and health responsibilities and are well-equipped to consider safety and health in all they do. HSO meets all requirements for the S&H training tenet found in the DOE-VPP.

VII. General Assessment

Safety and Health Conditions

The DOE-VPP On-site Review Team made observations during walk-around activities, both as a group and individually, and conducted over 300 interviews of HSO personnel. No conditions or events, which could be qualified as significant in terms of an unabated hazard to workers, were noted or reported. It was readily apparent that hazard prevention and control measures were effectively implemented at the site. Site safety rules, safe work practices, and PPE usage met requirements.

The consensus of the team was that the site was well-maintained and no major S&H issues were observed. All minor issues were immediately explained and/or resolved to the satisfaction of the Team.

Safety and Health Programs

The DOE-VPP team found the applicant's program to be highly effective. The overall program is comprehensive and well communicated. The Team believes that the contractor has developed a strong S&H infrastructure and with proper guidance and funding this program is expected to continually improve.

VIII. Team Conclusion

The Team was able to reach a consensus opinion that the applicant has met or exceeded all technical requirements for participation in the DOE-VPP. Accordingly, the Team now forwards this report to senior management as formal documentation in support of HSO's consideration for DOE-VPP recognition.

IX. Appendix: DOE-VPP On-site Review Team Members

Victor Taylor
U. S. Department of Energy
Fernald Environmental Management Project
P. O. Box 538705
Cincinnati, Ohio 45253-8705
513-648-3121
Vic.taylor@fernald.gov

Steve Maki
Fluor Federal Services/Richland Office
P. O. Box 1050 (MINS L7-10)
Richland, WA 99352
509-372-4009
Steven_J_Maki@rl.gov

Theresa Aldridge
U. S. Department of Energy
Pacific Northwest Science Office
P.O. Box 550 MSIN K8-50
Richland, WA 99352
509-372-4037
Theresa_l_Aldridge@rl.gov

Melvin L. Boyd
DOE - Fernald Environmental Management Project
P.O. Box 538705, MS 45
Cincinnati, Ohio 45253-8705
(513) 648-3412
Fax: (513) 648-3076
Melvin.boyd@fernald.gov

Patty Bailey
CH2M Hill Hanford Group, Inc.
2440 Stevens Center
P.O. Box 1500, MSIN 50-11
Richland, WA 99352
(509) 372-2343,
P_J_Patty_Bailey@RL.gov

Drue Collins
Pacific Northwest National Laboratory
902 Battelle Boulevard
P.O. Box 999, MSIW K8-32
Richland, WA 99352
(509) 375-3750
Drue.collins@pnl.gov

Bowen Huntsman
Betchel/BWXT Idaho
P.O. Box 1625
Idaho Falls, ID 83415
(208) 526-0388
BWH@inel.gov

Vern Madson
Pacific Northwest National Laboratory
902 Battelle Boulevard
P.O. Box 999
Richland, WA 99352
(509) 376-0792
Vern.madson@pnl.gov

Ruby Lopez-Owens
NNSA- Nevada Operations Office
Nevada Operations Office
P.O. Box 98518
Las Vegas, NV 89193-8518
(702) 295-1589
Owensr@nv.doe.gov

Terrence Shaw
West Valley Nuclear Services Co.
10282 Rock Springs Road
West Valley, NY 14171
(716) 942-2037
Shawt@wvnsco.com